CITY OF PRESCOTT
ARIZONA

PASSIVE RAINWATER HARVESTING

(RAIN GARDEN)

Homeowners Installation Guide

For More Information Please Contact:

CITY OF PRESCOTT PUBLIC WORKS

433 N. VIRGINIA STREET

PRESCOTT, AZ 86301

(928) 777-1130

WWW.PRESCOTTWATER.COM

WATER.SMART@PRESCOTT-AZ.GOV

OVERVIEW

As rainwater moves from rooftops, driveways, patios, and other impermeable surfaces to our local streams, it picks up pollutants such as oils, fertilizers, or pet waste along the way. By capturing this stormwater on site, homeowners are helping to decrease harmful pollutants that run into surrounding streams, and into Watson and Willow Lake Reservoirs. The WaterSmart Program provides a one-time rebate for the installation of a rain garden, or passive rainwater harvesting system, which will allows stormwater to infiltrate into the ground on a residential property. Passive Rainwater Harvesting improves water quality and is an effective way to limit outdoor watering.

ELIGIBILITY

Any City of Prescott water user, with a City of Prescott utility billing account can participate. A limit of one passive rainwater harvesting rebate may be issued for each property.

REBATE AMOUNT

A rebate of $3.00 per square foot (sf) of Basin Area, with a maximum rebate incentive of $500.00. The rebate amount will be given for total square footage of completed rain garden or passive rainwater harvesting system. Rebates are issued directly to the Utility Billing account once a project is completed, inspected, and approved.

Rebates are awarded on a first-come, first-serve basis and are limited to budgetary funding annually. Please see Prescott City Code 3-10-8 for further details at www.prescott-az.gov.

REBATE PROCESS

Complete the steps outlined below to obtain project approval. Failure to do so may result in disqualification for rebate funds.

BEFORE CONSTRUCTION BEGINS

1. Observe how water moves across the property in storms. Observe multiple times during a variety of storm sizes.
2. Call Arizona 811 (www.arizona811.com) to locate existing utility lines on the property.
3. Identify proposed area for rain garden, including inlets and outlets for water. Create a site plan using Yavapai County GIS http://gis.yavapai.us/v4/.
4. Perform a perc test using the worksheet provided to ensure project location and soil type are suitable.
5. **Prior to beginning any work**, submit the Pre-Application paperwork to Water.Smart@prescott-az.gov. This should include the site plan, itemized invoice for materials or from your contractor, perc test worksheet and a before photo.
6. The City will schedule an on-site meeting before construction begins.

AFTER CONSTRUCTION IS COMPLETE

1. Notify the City of Prescott at Water.Smart@prescott-az.gov
2. Submit after photos of the project site, a final invoice with receipts (indicating project has been paid). Submissions can be made in person at the Public Works Office or to Water.Smart@prescott-az.gov
3. Schedule a post-construction inspection with the City of Prescott.
4. Once the project is approved, the rebate amount will appear on the property utility bill within 90-days.

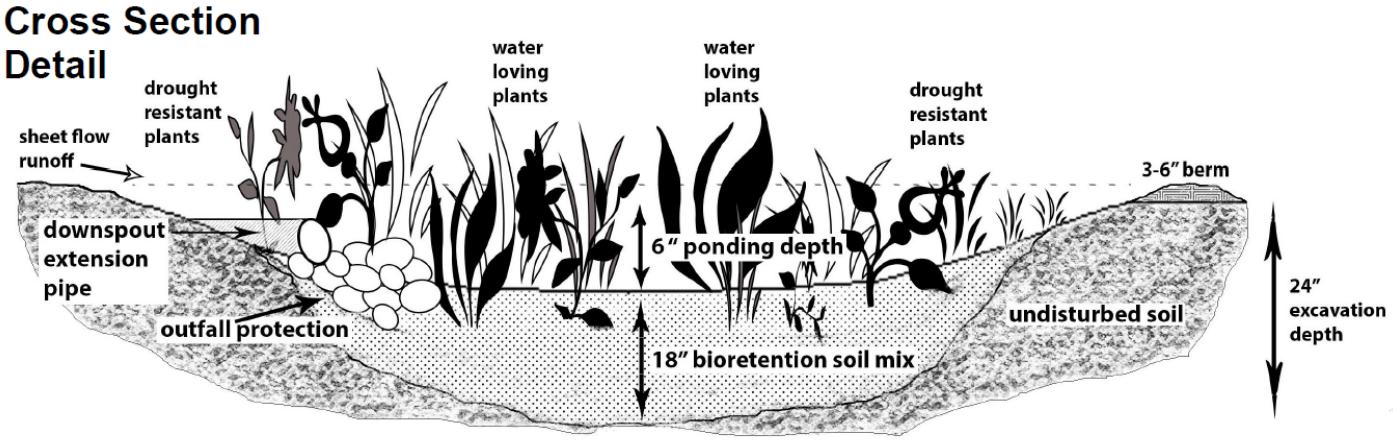
INSTALLATION REQUIREMENTS

The installation of a rain garden can be performed yourself or by a licensed contractor. Rain gardens must be well designed to function properly. Although contractors are not required, they are highly recommended, especially if they have rain garden experience. Please contact the City of Prescott for a list of landscaping professionals familiar with Rain Garden installation.

PROJECT GUIDELINES

Project materials must meet the minimum requirements before the project can be approved for construction. Any changes to materials made after construction approval must be submitted to the City for re-approval. Failure to do so may result in disqualification of rebate funds.

When calculating project size, a good rule-of-thumb is that the area of a rain garden should be at least 10% of the roof area draining into it. For example, if 700 square feet (sf) are redirected from the roof or other impermeable surface, then a rain garden should measure at least 70 sf.



Bioretention: Using plants (and soil organisms) to hold or retain water.

RAIN GARDEN SPECIFICATIONS

- **Location**: Rain Garden must be a minimum of 10 feet from any foundation or retaining walls, and a minimum of 3 feet from all property lines. The Rain Garden must not sit at the lowest point of the property, and may not overflow into the public right-of-way or adjacent properties.
- **Size**: The Rain Garden must be a minimum of 50 sf in size and large enough to capture the total stormwater directed to it.
- **Depth**: Excavation shall be a minimum of 24 inches deep. See design resources at www.prescottwater.com.
- **Fill material**: Existing soil (24 inches depth) shall be completely removed (can be used for the berm, see below) and replaced with 18" bioretention soil mix (The mix shall be 65% sand, 20% topsoil, and 15% compost) and 6" of ponding space.
- **Plant selection**: Plants must be native to the Prescott Active Management Area and within your local zone (Grassland/Pinyon Juniper/Chapparell/Oak Woodland/Ponderosa/Montane) A plant palette of native or drought tolerant plants is required on the site plan. Please refer to the:

  ADWR Low-Water Use Plant List
- **Mulch**: Mulch layer must be 2"-3" of dense, undyed material, such as woodchips or shredded hardwood. Mulch can be obtained free from the City of Prescott Transfer Station, when available. Call (928) 777-1116 for availability.
- **Downspout Extension**: PVC piping must be firmly attached to the downspout, buried at 1-2 degree downward slope away from the house, and must enter the rain garden above ground into the stone outfall protection area.
- **Outfall Protection**: A minimum of 3 sf of outlet protection, formed using large river rocks, must be placed at downspout outlet to disperse water as it enters the garden.
- **Berm**: A Berm shall be formed with compact clay, often from contents of excavation, no higher than 6" from surrounding area. It must be built on the downslope side of the garden and the top should be level with the uphill edge of garden. It should allow for sheet overflow when the garden is saturated, rather than channeled overflow. An appropriate overflow area must exist downslope of the garden. The berm should not border walkways or property lines.

DESIGN SKETCH REQUIREMENTS

The design sketch can be hand drawn or computer generated. It must illustrate all of the project specific requirements outline on page 3 to be considered complete (see example design sketch below). Additionally, it must include:

- Homeowner name, address, and utility billing account number;
- Dimensions of project and drainage area from roof and other drainage sources;
- Distance from structures, property lines, right of ways, and public space;
- Location of downspout and downspout extension; and
- Location descriptors (front yard, back yard, alley etc.)
- A site plan form is included with the application; available at www.prescottwater.com

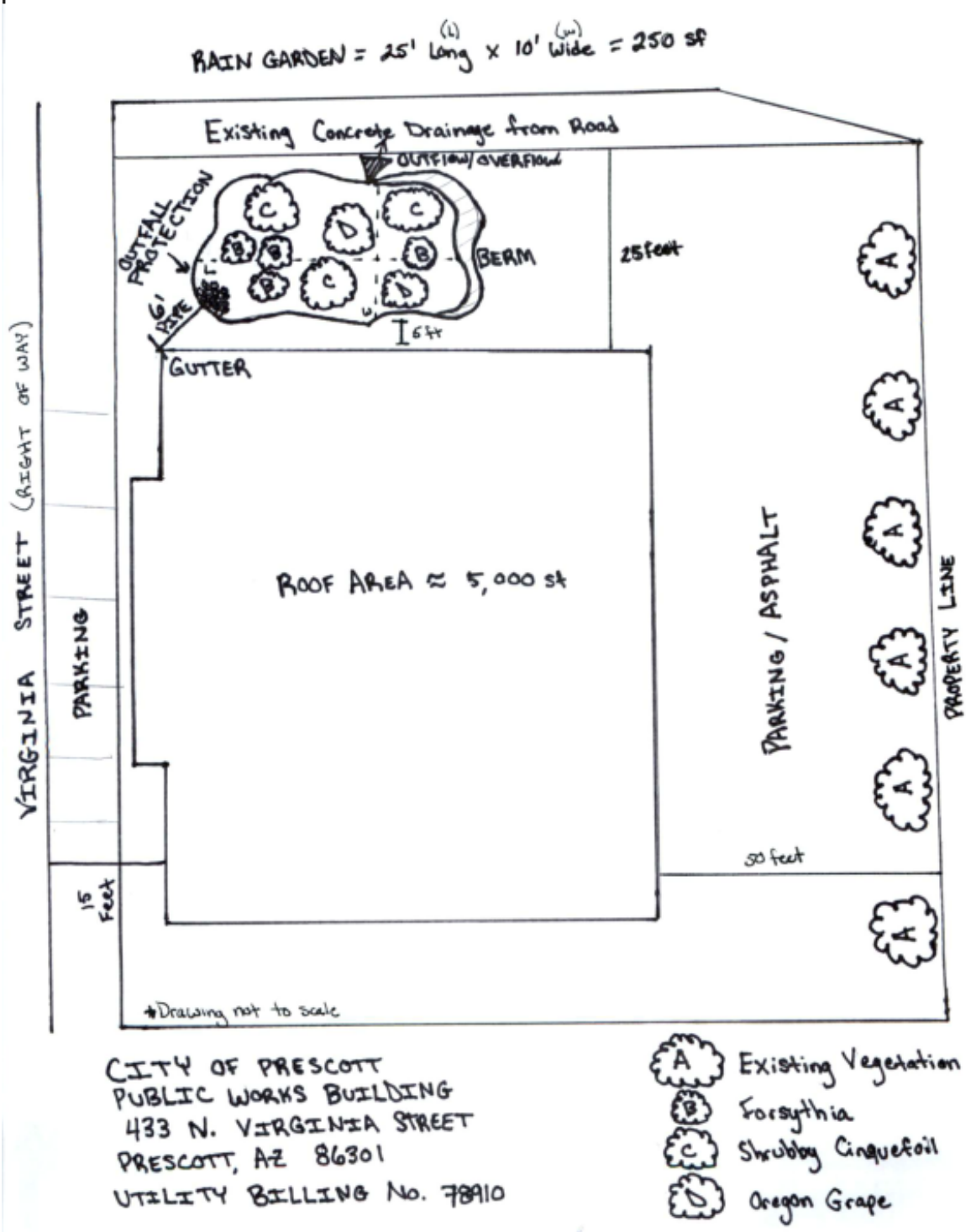


PHOTO GUIDELINES

The City relies on clear, accurate, and functional **BEFORE** and **AFTER** photos to assess project sites and determine the eligibility, status, and quality of the rebates and incentives funded by the City. Please follow the photo guidelines, failure to do so may lead to additional steps and delay or disqualify the rebate.

Do:

- Take before and after photos from the same angle, distance, and orientation (vertical/horizontal) such that they can be used to compare the same project area
- Include before and after photos of any downspout directed towards the project
- Take photos from a distance that show the item being highlighted in the context of the entire yard or space.

PASSIVE RAINWATER HARVESTING PERC TEST WORKSHEET

Name: _____ Project Address: _____

Overview:
A percolation test, or perc test, determines the speed in which water drains from the soil at a site. If the soil does not drain within 36 hours the project will not function properly Please follow steps 1-5 below.

Materials Needed:
- Digging tool (shovel or post-hole digger)
- Measuring tool (yard stick/ruler & reference stick)
- Water source (hose or bucket of water)
- Worksheet and pencil

Caution! Make sure you know where the utilities are located before you start digging! Visit www.Arizona811.com at least two days in advance to have public utility lines marked prior to perc test.

Step 1: Dig a hole that is 6 inches deep and 6 inches wide, with straight sides, in the area where the project will be installed.

Step 2: Fill up the hole with 6 inches of water and let it sit overnight. This saturates the soil and gives a more accurate test reading.

Step 3: Refill the hole with water the next day.

Step 4: Measure drainage every hour. Measure the water level by laying a stick, pipe, or other straight edge across the top of the hole, then use a tape measure to determine the water level. Continue to measure every hour until the hole is empty, noting the number of inches the water drops per hour.

PERC TEST RESULTS

Hour 1 _____ Inches

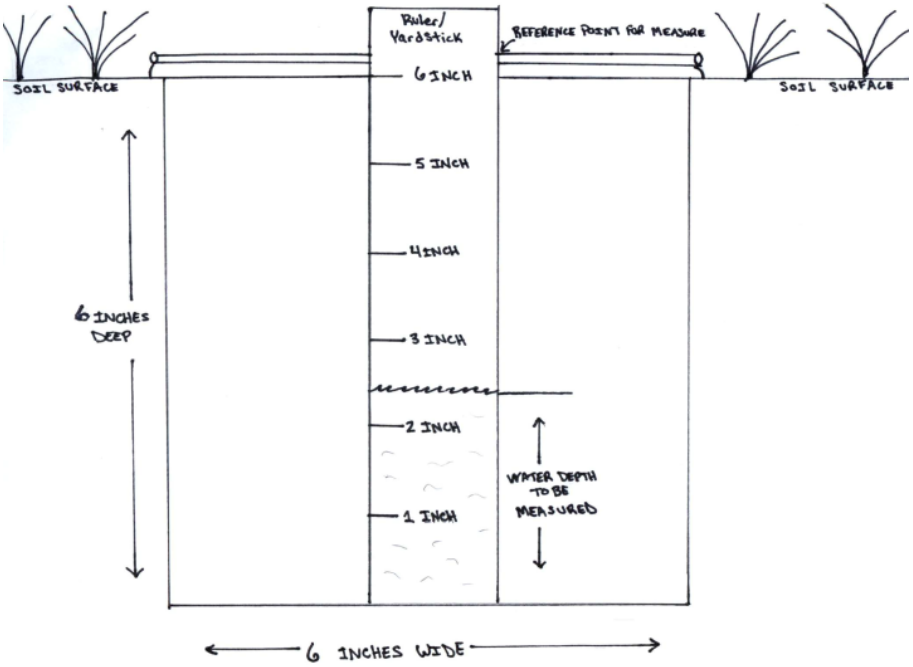
Hour 2 _____ Inches

Hour 3 _____ Inches

Hour 4 _____ Inches

Hour 5 _____ Inches

Hour 6 _____ Inches



CITY OF PRESCOTT
ARIZONA

PASSIVE RAINWATER HARVESTING APPLICATION

1. CONTACT INFORMATION

Name: _____

Email:_____

Project Address:_____ Zip Code:_____

Phone:_____ Utility Billing Account #:_____

2. PROJECT INFORMATION

Contractor: _____

Mark here if DIY (Do-It-Yourself)_____

Size (square feet):

Rain garden project area: _____ sf

Stormwater (Roof) drainage area: _____ sf

(Ex: roof area or impermeable surface redirected to project through downspout)

Perc Test Rate: _____ inches per hour (See the Perc Test Worksheet following this page for instruction and calculation)

Cost:

Total project cost: $_____

3. REQUIRED APPLICATION MATERIALS

- ☐ Perc Test Worksheet
- ☐ Design Sketch that illustrates all project requirements
- ☐ Itemized Invoice with Receipts
- ☐ Before Photos (see page 7 of Homeowners Guide)

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_____ Signature _____ Date